

INTERNATIONAL SEARCH REPORT

PCT/IB2004/051254

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H03G3/32 H03G5/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H03G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, INSPEC, COMPENDEX, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/067418 A (CHRISTOPH MARKUS ; HARMAN BECKER AUTOMOTIVE SYSTE (DE)) 29 August 2002 (2002-08-29) page 4, line 1 - page 6, line 2; claim 5	1,2,8-10
Y	abstract; figures 1,2,4,7a,8 page 10, line 28 - page 11, line 19 page 16, line 6 - page 17, line 18 page 3, line 7 - line 18	3-5
Y	US 4 868 881 A (ZWICKER EBERHARD ET AL) 19 September 1989 (1989-09-19) abstract	3
A	column 2, line 55 - column 4, line 9; figure 2 ----- -/--	1,2,4,5, 8-10

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

10 November 2004

Date of mailing of the international search report

02.02.2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Wichert, B

INTERNATIONAL SEARCH REPORT

PCT/IB2004/051254

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 4 641 344 A (KASAI JUNICHI ET AL) 3 February 1987 (1987-02-03) abstract; figures 3,11,14 column 3, line 6 - line 22 column 4, line 30 - line 35 column 7, line 4 - line 22 column 7, line 59 - column 8, line 24 -----	4 1-3,5, 8-10
Y A	US 5 046 105 A (BOHN DENNIS A) 3 September 1991 (1991-09-03) abstract; figures 1,2 column 2, line 51 - line 61 -----	5 1-4,8-10
A	US 5 434 926 A (WATANABE YOSHIKATSU ET AL) 18 July 1995 (1995-07-18) abstract; figures 1,2 -----	1-5,8-10

INTERNATIONAL SEARCH REPORT

PCT/IB2004/051254

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

see annex

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5,8-10

Claims 1 and 9 claim an audio conditioning apparatus - and a corresponding method - for evaluating noise in dependency of the noise frequency range (one range being bass or treble) and for amplifying the volume of the audio signal and furthermore frequency components of the audio signal in the bass or treble frequency audio band dependent on this evaluation.

1.1. claim: 2

An audio conditioning apparatus having especially selected frequency ranges for the bass or the treble frequency band, respectively.

1.2. claim: 3

An audio conditioning apparatus comprising a gain consistency unit.

1.3. claim: 4

An audio conditioning apparatus comprising a gain dispatcher unit.

1.4. claim: 5

An audio conditioning apparatus comprising a shelving filter.

1.5. claim: 8

An audio reproduction apparatus comprising an audio conditioning apparatus.

1.6. claim: 10

A computer program product enabling a processor to execute a method of conditioning an audio signal.

2. claims: 6,7

An audio conditioning apparatus further comprising an active noise cancellation circuit, the audio conditioning and the active noise cancellation working according to different principles.

INTERNATIONAL SEARCH REPORT

PCT/IB2004/051254

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 02067418	A	29-08-2002	DE	10107385 A1	05-09-2002
			WO	02067418 A2	29-08-2002
			EP	1366564 A2	03-12-2003
			US	2004076302 A1	22-04-2004
<hr/>					
US 4868881	A	19-09-1989	DE	3730763 A1	30-03-1989
			AT	98406 T	15-12-1993
			DE	3886148 D1	20-01-1994
			EP	0307725 A2	22-03-1989
<hr/>					
US 4641344	A	03-02-1987	JP	60145714 A	01-08-1985
			JP	60178711 A	12-09-1985
			JP	1917296 C	23-03-1995
			JP	6044698 B	08-06-1994
			JP	61015408 A	23-01-1986
<hr/>					
US 5046105	A	03-09-1991	NONE		
<hr/>					
US 5434926	A	18-07-1995	JP	3056866 B2	26-06-2000
			JP	5226952 A	03-09-1993